Anatomy I
Dr. Wilson/Dr. Allworth
Second Hour
October 21, 1999
Transcribed by: Rozalie Jackson

Clinical: Pelvis (cont.)

Recto-uterine pouch (lowest point in the pelvic cavity)
- between rectum and uterus
- can be accessed through the wall of the posterior fornix (between cervix and vaginal wall) of the vagina
* Clinical Procedure: To detect cancer, or to drain inflammatory material (ascites, blood, etc) by inserting a **culdoscope** between posterior fornix and wall of vagina and collecting fluid
- running across posterior pelvic wall is the sacral plexus
- enlargement of uterus can compress sacral plexi during pregnancy leading to neurological pain of lower limbs

Clinical: Perineum

- **Anus** has two embryological origins:
    (1) hindgut -- cloaca (most superior portion of **anus**)
    (2) ectoderm (most inferior portion of **anus**)
    * cloacal membrane separates the two parts of **anus**-- urorectal septum fuses with cloacal membrane, dividing cloaca up into anterior primitive bladder and a posterior rectum
- if open up anal canal, line runs across the middle called **pectinate line** (important landmark)
Inferior to pectinate line = ectoderm derivation
Superior to pectinate line = endoderm derivation (hindgut)
mucosal lining (simple columnar) = above pectinate line
stratified squamous epthelium = below pectinate line
- part of **anus** derived from **ectoderm** is sensitive to sensory modalities (touch, temperature, pain), this portion is **innervated by GSA fibers**
- part derived from **hindgut** is sensitive to distention, this portion is **innervated by GVA fibers**
* Clinical Significance: If a needle is place into **anus** (to inject anesthesia, etc), above the pectinate line, the patient will not feel it because it is innervated by GVA fibers above the line
- **Anus** has dual lymph drainage:
    (1) Below pectinate line (GSA, ectoderm) -- **Superficial Inguinal Lymphnodes**
    - first place of enlargement of lymphnodes due to metastasis of cells (cancer) in anal canal is around the femoral triangle
    (2) Above pectinate line (GVA, hindgut) -- two locations of drainage, **Inferior Mesenteric**

Lymphnodes and Internal Iliac Lymphnodes
- **Anal Columns** = longitudinal bulges in the lumen of the **anus** above thw pectinate line
- **Superior Rectal Vein** located beneath the anal columns, causes the bulges into the anal lumen

Hemorrhoids (2 types)
(1) Internal -- varicosities (enlargements) of Superior Rectal Vein
- occurs above the pectinate line initially
- covered with mucosa (simple columnar epithelium)
- can prolapse outside **anus** when very large = **prolapsed hemorrhoids**
- 3 branches of Superior Rectal Vein which become enlarged usually occur at 11 o'clock, 3 o'clock, and 7 o'clock positions

(2) External -- varicosities of Inferior Rectal Vein
- occurs below pectinate line
- subdermal location (directly underneath the skin)
- covered with skin (stratified squamous epithelium)

Major Causes of Hemorrhoids:
(Both Types)
(1) Constipation (most common cause)
(2) Portal Hypertension

- **anal valves** are between anal columns, flaps of tissue -- remains of cloacal membrane attached to the **periphery** of the **anus**
- glands secrete a mucous like substance which fill up the sinuses of the valves providing a lubricant for defecation
- sometimes pieces of feces get caught on the valve, causing a tear in the anal wall -- this is called an **anal fissure**
- anal fissures can be painful because they extend below the pectinate line (GSA) and bacteria can invade beneath the skin through the fissure (opening) eventually causing an abscess
Above the pectinate line -- **Submucosal Abscess (beneath the mucosa)**
Below the pectinate line -- **Subcutaneous Abscess (beneath the skin)**
- abscesses can spread into the Ishiorectal (Ishioanal) Fossa causing an **Ishiorectal (Ishioanal) Abscess**
- the **pudendal nerve (supplying the external genitalia)** is found in the pudendal canal in the lateral wall of the Ishioanal fossa, and abscess could cause an inflammatory response or compression of the contents of the pudendal canal, leading to damage of the nerve
* Clinical Correlation: damage of the pudendal nerve could cause produce paralysis of U.G. diaphragm leading to prolapse of certain organs, **Urinary Incontinence and Anesthesia of the external genitalia**
- **Inferior Rectal nn/aa/vv (supplying the external anal sphincter)** traverse the Ishioanal fossa also. An abscess in this region could also lead to paralysis of the external anal sphincter which would cause **Fecal Incontinence (loss of voluntary control of defecation)**
- **Pelvirectal Recess** is located above the pelvic diaphragm in the pelvic cavity
if abscess (Pelvirectal Abscess) moves here it could eventually travel into the peritoneal cavity, leading to **Peritonitis** (inflammation of the peritoneum)
- Ischiorectal fossa can change shape during defecation

Childbirth and Female Circumcision

Childbirth

- **Spinal block** by Lumbar puncture, Anesthesia given from waist down, and all intraperitoneal organs as well as retroperitoneal organs located in the inferior region of the pelvic cavity, mother then cannot assist in the delivery
- anesthesia in lower region allows participation of mother in delivery
- **caudal epidural block** -- needle is inserted into the sacral canal (anal region)
- the subperitoneal and somatic region are innervated by the pudendal nerve, therefore **pudendal nerve block** is also necessary for complete anesthesia
insert finger into vagina and feel on lateral wall for ischial spine and direct the needle into this area to anesthetize the entire region
- can also perform an **ilioinguinal block,** ilioinguinal nerve innervates anterior aspects of peritoneal cavity, in particular mons pubis, anterior portion of labia major, and lateral aspect of anterior of labia majora
- Another reason for anesthetizing is an infected Bartholin's Cyst (common)
Bartholin's Gland located posterior to end of the bulb of the vestibule is homologous to Bulbourethral gland in the male, secretes lubricating substances

Episiotomy: performed to prevent uterine prolapse and urinary bladder prolapse
an incision in perineum to alleviate tearing
median incision -- from posterior vaginal wall down the midline to the perineal body, can risk tearing external anal sphincter
mediolateral incision -- done more commonly, going off midline so that if tear does occur further along incision line, does not extend into external anal sphincter
Structures cut in mediolateral incision:
- skin in the pathway
- posterior vaginal wall
- Bulbospongiosus muscle
- lateral aspect of perineal body

Female Circumcision
(4 forms)
(1) Sunna: Prepuce is removed only
(2) Clitoridectomy: Prepuce and clitoris (and crus) removed
(3) Excision: Prepuce, clitoris, and entire labia majora removed
(4) Infibulation: Prepuce, clitoris, labia majora, and labia minora (and underlying erectile tissue and muscles) removed
* sometimes there is complete suturing of vaginal opening
- In many cases it is done without medical expertise, and as a result of circumcision, some women have long/short term trauma and scarring that compromise delivery of children and their ability to achieve sexual pleasure
- Tribal tradition (religious, social, etc. issue)

G-Spot
- another area of sexual excitation for women
- named from German Gynecologist, Dr. Grafenberg who discovered it
- this location (spot) of erectile tissue is found on the anterior vaginal wall, posterior to urethra
- thought to be associated with paraurethral glands located in wall posterior to the urethra, tissue surrounding this is erectile tissue that is more or less developed in various female
- embryologically this region along with paraurethral glands come for same region as the prostate gland

in the male, gentle massage of the prostate gland can be used to determine if impotence is due to physical or psychological
- G-spot has different innervation than the clitoris, reports state that the orgasms felt from the two locations are very different :o)

Good luck on Second Intersessional !!!!

Ayurvedic Surgical Treatments

Dr.L.P.A.Karunathilake

Sri Lankan Ayurvedic medical system has grown out of accumulation of wisdom and experience of past several centuries. It healed and comforted the suffering humanity through the ages. The therapeutic efficacies of these various treatments in the management of various complicated or difficult diseases are excellent.

Ayurvedic medical system comprises of two main branches viz a viz, **medicine** (***Kayachikithsa***) and **surgery** (***shalya chikithsa***). This well systematized and time-tested surgical treatment has its own unique effective treatment procedures. The main treatment types can be classified as :

1. **Kshara** treatment (**caustic** treatments)
2. **Agni** treatments (**fire cautery** treatments)
3. **Shastra** treatments (**Instrumental** operations)
4. **Raktamokshana** treatments (**Blood letting** treatments)
5. **Vasthi** treatments (**enema** treatments)

Many diseases which cannot be cured successfully with the help of modern medical or surgical treatments can be effectively and safely cured by **Ayurvedic surgical treatments.** Few such diseases can be listed as follows.

1. Gastrointestinal diseases (***peptic ulcer, gastritis, chronic colitis, ulcerative colitis, chron's disease, haemorrhoids, fissure in ano, fistula in ano, prolapse of the rectum, anal incontinence, anal stricture etc.)***
2. Genito Urinary tract diseases ***(prostatic hyperplacia, chronic urinary tract infections, urinary calculus, prostatitis, hydrocoel, hernia, filarial scrotum, chronic epididimoorchitis etc.)***
3. Vascular system diseases ***(Vericose veins, filariasis, atherosclerosis, chronic wounds and ulcers etc.***

Benefits of Ayurvedic treatments over other treatments :-

1. Permanent cure
2. No recurrence
3. Devoid of side effects and complications
4. Cost effective
5. Safe and simple
6. Ambulation
7. Preservation of cosmetic value

Ano Rectal Diseases :-

Ano Rectal Diseases are nothing but the diseases related to the lower part of the gastro intestinal system or digestive system. The main parts affecting are rectum and anal canal. Excessive physical and mental strain and irregular dietary habits, structural defects in the region, various other diseases related to some part of the body , infections etc leads to abnormal bowel movements which if persists causes various ano rectal diseases. The Sri Lankan Ayurvedic management of these conditions have been widely practiced successfully since time immemorial.

Ayurvedic treatments for these diseases are highly promising and also free from complications and ambulatory. The common complications of modern treatments like incontinence of faeces, severe proctitis, prolonged hospitalization, high rate of recurrence, and obstructions etc can be avoided from these Ayurvedic treatments. The treatment includes Kshara sutra treatment (medicated thread treatment) , blood letting treatment , Agni treatment (fire treatments) and internal and external medicinal treatments.

What are the main diseases related to Ano Rectal region?

1. **Haemorrhoids - Piles.**

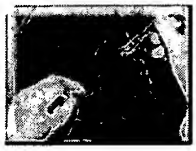
This is a common anorectal problem with or without prolapsing masses from anal opening. The most prominent signs and symptoms are bleeding per rectum, constipation, straining during defecation, when get infected or trombosed pain and uncomfortable feeling present.

Treatment

The time tested successful and safe Ayurvedic treatments includes varieties of treatments like caustic treatments (highly effective kshara tretment), fire cautery tretment along with internal anal local medicinal treatments.

Benefits of the Ayurvedic treatments -

Permenant cure, safety, no recurrence of the disease, no complications or the side effects, simple and economical.



2. **Fistula in ano :-**

This is a difficult surgical disease according to modern medical world. Recurrent nature is commonly found in this disease. This is a tubular stricture lined with unhealthy granulation connects two epithealialized cavities with each other or one cavity to the surface. The one stage of this disease is appearance of boil within the periphery of anal opening.

Common signs and symptoms :-

Discharge of pus or blood mix pus, itching, pain in the anal / peri anal region, fever, when boil it burst and again closed spontaneously.

Treatment :-

The most effective unique Ayurvedic treatment includes " **Kshara Sutra " therapy (Medicated thread treatment)** with other local and internal natural medicines.

3. **Fissure in Ano:-**

This is a very common ailment affecting ano rectal region present days. A vertical tear of anal canal may be due to injury, hard stool, straining, improper functioning of the sphincteric muscles during defecation, excessive diarrhoea, per rectal treatments, surgeries in the region; Recurrent disease cause sentinel tag or small mass in the anal opening which may be very painful.

Common signs and symptoms;

Pain or burning during and after defecation, bleeding per rectum, difficulty in passing stools etc.

Ayurvedic treatment :-

This promising treatment giving relief of pain, smooth passage of soft and non irritant motion and complete healing of the wound (Fissure)

Urinary tract diseases

1. **Prostatic Hyperplasia (prostate gland enlargement)** and other prostatic ailments-In men over 50 gradual enlargement of prostate is a common trouble. This may lead to rise to urinate during night, slow and poor stream, dribbling unable to complete empty of urine, unable to pass urine, burning etc .

These diseases can be successfully treated by non operative Ayurvedic treatments with internal and external medical and para surgical measures. This treatment procedure will definitely leads to normalize the size of prostate gland.

Signs and symptoms - frequency of micturition, burning micturition, straining when passing urine, difficulty to pass urine, sudden stoppage of urine flow etc.

Successful non-operative ayurvedic treatments include internal and local medical and para surgical treatments.

1. **Urinary calculus - stones in the urinary system.**

The time tested and highly successful Ayurvedicic treatment includes internal medicine plus local and mineral treatments without instrumental operations.

2. **Chronic urinary tract infections**

Recurrent urinary tract infection is one of the commonest clinical presentations in present day. Increasing resistance to pathogens, sub therapeutic dosages, structural deformities et c may be the causes. Internal and local (enema treatment) Ayurvedic treatments successfully cures the diseases completely and permanently.

5. **Chronic wounds and ulcers: -**

(Non healing or unable to heal ulcers and wounds)-

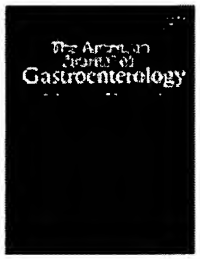
Due to traumas, various infections, some diseases like diabetic mellitus, deficiencies, operations etc, these

wounds or ulcers can be occurred. The promising successful Ayurvedic treatment includes systemic local herbal, mineral and para surgical treatment. This treatment also helps to restore the colour and cosmetic appearance of the wound site establishing healing procedure accurately.

D.A.M.S. (Hon) Sri Lanka,
M.S.(Ay) B.H.U. India, PhD (Shalya) G.A.U. India, -
Senior Lecturer, Institute of Indigenous Medicine, University of Colombo, Sri Lanka,
Consultant Surgeon, Ayurvedic Teaching Hospital, Sri Lanka,
Residence:- 117/1, Buthgamuwa Road, Kalapaluwawa, Rajagiriya, Sri Lanka.
Tel : +94-1- 792394, Mobile :- +94-71-767172, Fax :- +94-1-469710,
Email :- mansuwa@sltnet.lk, svksus@yahoo.com

Home

DP/..



Abstract

The American Journal of Gastroenterology
Volume 101 Page 45 - January 2006
doi:10.1111/j.1572-0241.2006.00394.x

Volume 101 Issue 1

Usefulness of Contrast-Enhanced Endoscopic Ultrasonography in the Differentiation Between Malignant and Benign Lymphadenopathy*

Akira Kanamori, M.D.[1], Yoshiki Hirooka, M.D.[2], Akihiro Itoh, M.D.[1], Senju Hashimoto, M.D.[1], Hiroki Kawashima, M.D.[1], Kazuo Hara, M.D.[1], Hiroki Uchida, M.D.[1], Jun Goto, M.D.[1], Naoki Ohmiya, M.D.[1], Yasumasa Niwa, M.D.[1], and Hidemi Goto, M.D.[1,2]

BACKGROUND/AIMS: Endoscopic ultrasonography (EUS) is considered the most useful diagnostic modality for regional staging; however, it is still difficult to diagnose lymph node metastasis by EUS images only. In this study, we report the usefulness of contrast-enhanced EUS (CE-EUS) in the evaluation of benign lymph nodes (BLN) or malignant lymph nodes (MLN) based on blood flow patterns.

SUBJECTS AND METHODS: In the retrospective study, CE-EUS was performed in 46 patients in whom EUS revealed lymph node in the mediastinum or abdominal cavity. The subjects consisted of 22 patients with BLN and 24 patients with MLN. The lesions were examined by EUS, and the maximal and minimal diameters of lymph nodes were measured. Thereafter, the shape and internal echoes were investigated, and the findings were morphologically classified based on Catalano's report. Enhancement effects and the diagnostic capability of CE-EUS were evaluated. In the prospective study, BLNs were differentiated from MLN using the enhancement patterns on CE-EUS based on the results of the retrospective study, and the diagnostic capability was evaluated.

RESULTS: In the retrospective study, there were no significant differences in the maximal diameter and maximal/minimal diameter ratio between MLN and BLN. The morphology was classified into four types. Based on the morphological classification, the sensitivity,

Received May 9, 2005; accepted September 15, 2005.

Affiliations

specificity, and accuracy rate were 88.2%, 77.3%, and 82.1%, respectively. On CE-EUS, the enhancement pattern was classified into three types. The BLN lesions showed uniform enhancement (19/22). In all patients with MLN, a defect of enhancement was observed (24/24). The sensitivity, specificity, and accuracy rate of CE-EUS were 100%, 86.4%, and 92.3%, respectively. In the prospective study, the sensitivity, specificity, and accuracy rate of CE-EUS were 100%, 81.8%, and 92.0%, respectively.

CONCLUSIONS: CE-EUS is useful for differentiating BLN from MLN.

(Am J Gastroenterol 2006;101:45–51)

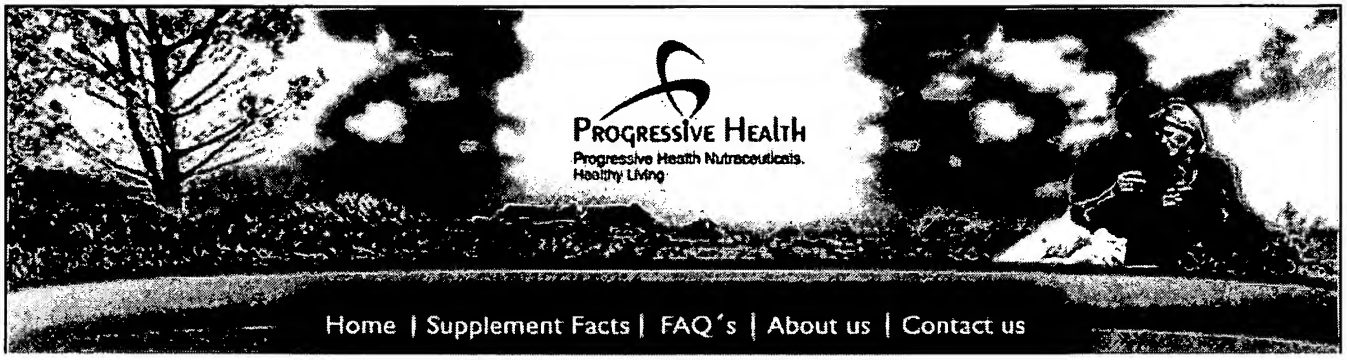
References Full Text Article PDF [585KB]

[1]Department of Gastroenterology, Nagoya University School of Medicine; and [2]Department of Endoscopy, Nagoya University Hospital, Nagoya, Japan

Correspondence

Reprint requests and correspondence: Yoshiki Hirooka, M.D., Department of Endoscopy, Nagoya University Hospital, 65 Tsuruma-cho, Showa-ku, Nagoya 466-8550, Japan.

To cite this article
Kanamori, Akira, Hirooka, Yoshiki, Itoh, Akihiro, Hashimoto, Senju, Kawashima, Hiroki, Hara, Kazuo, Uchida, Hiroki, Goto, Jun, Ohmiya, Naoki, Niwa, Yasumasa & Goto, Hidemi (2006)
Usefulness of Contrast-Enhanced Endoscopic Ultrasonography in the Differentiation Between Malignant and Benign Lymphadenopathy*.
The American Journal of Gastroenterology **101** (1), 45-51.
doi: 10.1111/j.1572-0241.2006.00394.x



The signs and symptoms of hemorrhoids vary from person to person, and are dependant upon the classification of hemorrhoid. Keep in mind that the signs and symptoms listed below may be an indicator of a more severe, underlying deficiency.

External Hemorrhoids: Itching, Burning, and Irritation are common. Streaks of blood may also appear on toilet paper after straining during bowel movements. You may also find it difficult to thoroughly cleanse the anal area.

Internal Hemorrhoids: Rectal Bleeding and pain are regularly complained about. Internal hemorrhoids can be extremely painful, as they often protude most all the time and can become thrombosed, or clotted. Mucus is also another indicator of Internal hemorrhoids, as is blood upon your stools or in the toilet.

Causes and Risk Factors:

A variety of reasons contributed to one developing hemorrhoid. Potential sources, or causes, of hemorrhoids include;

- Age
- Pregnancy
- Chronic constipation
- Fecal straining
- Liver disease
- Cirrhosis of the liver
- Heart disorders
- Congestive disorders
- Straining during bowel movements
- Overuse of laxatives

"By age fifty, approximately half of all adults will have to manage the nagging itchiness, bleeding, inflammation, and pain that is associated with mild to moderately severe hemorrhoids."

Diagnosing Hemorrhoids:

Diagnosis begins at home with noticing any inconsistencies or symptoms associated with hemorrhoids, and ends with a comprehensive, medical evaluation. During a physical assessment for hemorrhoids, physicians examine the anal area to receive a definitive diagnosis. This process usually begins with the removal of your clothing from the waste down. It is likely that you'll be asked to lye on an examination table for the preliminary examination, so that the practitioner may look for any evidence relating to any one of the classifications of hemorrhoids. A rectal exam can also be performed. Further examination entails the use of an anoscope. A small tube with a light is inserted into the rectum can help the doctor locate any existing internal hemorrhoids.

Conventional Treatments:

Standard treatment approaches for hemorroids involve several options, including prescription or over-the-counter medications and surgical procedures, and are most often dependant upon condition severity. However, mild hemorrhoids can be treated by employing simple changes

to diet and bowel habits. Most cases do not require surgery or specialized treatments, unless they have become extremely painful.

Nonsurgical procedures, also called fixative procedures, are goal based treatments, where consistent application by the individual is necessary. These may include prescription medications, hemorrhoidal creams, or suppositories. Only the severest of cases require surgery. Again, like nonsurgical treatments, options for surgical procedures are dependant upon condition severity. Options include:

Sclerotherapy: A chemical solution is injected around the hemorrhoid. The objective of sclerotherapy is to limit blood supply to the hemorrhoid, until the condition subsides and/or the hemorrhoid shrinks. The remaining scar tissue that has formed (resulting from the lack of blood supply and shrinkage of the hemorrhoid) minimizes the recurrence of the condition by supporting **surrounding** anal **tissues**.

Rubber-band Ligation: This is an outpatient procedure that is relatively nontraumatic. During the treatment a rubber-band is placed around the base of the hemorhoid inside the rectum. Like sclerotherapy, the band cuts off circulation and causes the hemorrhoid to whither away within a number of days. More than one session may be necessary.

Infrared light: During this procedure, bursts of infrared light are used to inhibit blood circulation to small, bleeding, internal hemorrhoids.

Hemorrhoidectomy: This refers to the actual excision of the hemorrhoids and subsequent resuturing of any affected rectal mucosa. It is usually the last option and is only used if all other treatment options have failed. It can be done on either an inpatient or outpatient setting, and requires anesthesia.

Avatrol May be Employed to Lessen the Severity of YOUR Current Hemorrhoid symptoms, While Drastically Reducing The Potential For Any Recurrence.

Research indicates that obesity, lack of exercise, liver damage, food allergies, and(most importantly) the insufficient consumption of dietary fibers all contribute to the development of hemorrhoids. As a result, many doctors now recommend that persons with hemorrhoid issues increase fibers (both soluble and insoluble), liquids, and nutritional supplements for condition management. Specific herbs, flavonoids, and vitamins have been clinically evaluated, exhibiting positive marks in the scope of recurrent hemorrhoids treatment and prevention.

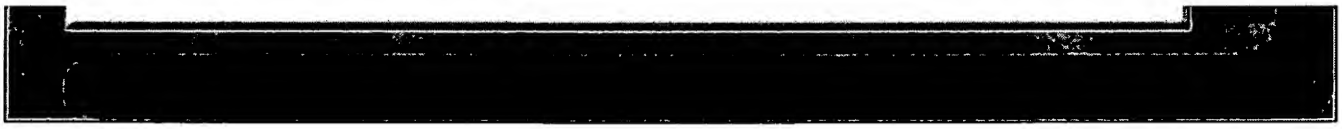
Using the latest findings from the scientific community, Progressive Health's **Avatrol has been specially designed for hemorrhoid symptom management**. Avatrol contains a synergistic blend of all-natural ingredients that promote circulatory and gastrointestinal health. Other key botanicals enhance the bulk of stools and decrease the risks of constipation. As dietary standards are often inadequate in persons with hemorrhoids, Avatrol also addresses the insufficient mineral levels that have been identified as influential factors in hemorrhoid development. What's more, the ingredient, mullein, address symptoms of pain, if and when they occur.

Progressive Health's unique and comprehensive formula may be used as a preventative mechanism or perfect adjunct to any existing treatment protocols; thus helping you to regain comfort lost by the many adverse symptoms resulting from this embarrassing condition.

- Our Simple, No-Nonsense Guarantee -

If for some reason you do not obtain the desired results from Avatrol, or are dissatisfied for any reason, simply return all empty or unused bottles within 180 days. Upon receiving the returned product, we will immediately review your account and a credit will be calculated at 100% of the purchase price (less shipping and handling) - No questions asked.

Order Avatrol | Avatrol Supplement Facts



Avatrol Main Page